Abstract
The role of deposit insurance and the design features of deposit insurance systems are undergoing important changes in light of the 2008/9 global crisis. Changes were made in order to restore the public confidence in the banking system, stop widespread bank runs during the crisis and increase the stability of the financial system. The purpose of this paper is to present the changes in deposit insurance around the world as a result of the financial crisis of 2008. Three main changes will be observed: the raising of the maximum level of deposit insurance coverage, the elimination of coinsurance and changes in the speed of depositor’s payout. Effects of these changes will be analyzed, and special emphasis will be laid on the deposit insurance system of the Republic of Macedonia.

The changes in deposit insurance can affect the moral hazard problem, the premium assessment base and the potential financial commitment of the deposit insurance institution. Changes in the deposit insurance regulations of the Republic of Macedonia did not affect the premium assessment base, but the potential financial obligation of the deposit insurance institution was increased. Regarding the moral hazard problem mitigation, Deposit Insurance Fund - Skopje should consider risk-based premium introduction.

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Any reference to the Republic of Macedonia refers to the Former Yugoslav Republic of Macedonia (FYROM), which is officially the name for the country accepted by the United Nations.

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Introduction

A deposit insurance system (DIS) refers to the set of specific functions (whether performed by a dedicated legal entity or not) inherent in providing protection to bank depositors, and their relationship with other financial system safety net participants to support financial stability\(^1\). An effective DIS is an important pillar of the financial safety net and plays a key role in contributing to the stability of the financial system and protection of depositors (Financial Stability Board, 2012).

The role of deposit insurance and deposit protection is undergoing important changes in light of the 2008/9 global crisis. Assumptions about the role of deposit protection in maintaining financial stability have evolved and its role in the safety net has been clarified and strengthened. The main purpose of deposit insurance, as a part of the global financial stability framework, before the crisis, was protection of the small depositor, who doesn’t understand and monitor the risk taken by the financial institutions. After the crisis, maintaining and strengthening the stability of the financial system was set as the primary goal of the deposit insurance and protection of the small depositor as secondary (Bernet and Walter, 2009).

The crisis resulted in greater convergence in practices across jurisdictions and an emerging consensus about appropriate features of the deposit insurance system. These include higher (and in case of the EU, more harmonized) coverage levels; the elimination of coinsurance; the adoption of ex-ante funding by more jurisdictions; and the strengthening of information sharing and coordination with other safety net participants. The mandates of deposit insurers also evolved, with more of them assuming responsibilities beyond a pay-box function to include involvement in the resolution process.

The purpose of this paper is to present the changes in deposit insurance in various countries of the world as a result of the financial crisis of 2008. Three main changes will be observed: the raising of the maximum level of deposit insurance coverage, the elimination of coinsurance and changes in the speed of depositors’ payout. Effects of these changes will be analyzed, and special emphasis will be laid on the deposit insurance system of the Republic of Macedonia.

Raising the maximum level of coverage

The crisis revealed the importance of effective deposit insurance as a key element of the global financial stability framework. A loss of confidence was observed during the crisis. In response to this anxiety, some authorities increased the coverage of their

\(^1\) A financial safety net typically consists of prudential regulation and supervision, emergency lender of last resort, problem bank insolvency frameworks, and deposit insurance. In many jurisdictions, a department of the government (e.g. ministry of finance or treasury) is also included in the safety net.
deposit insurance scheme or even provided an explicit deposit blanket guarantee. The adoption of higher deposit insurance coverage level was made in order to prevent the transmission of panic from debt investors to depositors. The increase of deposit insurance coverage helped restore public confidence in the banking system, stopped widespread bank runs during the crisis and increased the stability of the financial systems.

Before the crisis the minimum deposit insurance coverage level in EU was set at EUR 20,000 (Directive 94/19/EC). In 2009, with the new Directive 2009/14/EC, amending Directive 94/19/EC, the coverage level – the previous provision on the minimum coverage limit (EUR 20,000) was replaced by the following limits:

- By June 30th 2009, the EU member states shall ensure that the coverage of the aggregate deposits of each deposit shall be at least EUR 50,000 in the event of deposits being unavailable;
- By December 31st 2010, the EU member states shall ensure that the coverage of the aggregate deposits of each deposit shall be at EUR 100,000 in the event of deposits being unavailable.

The EU countries have adjusted the coverage level with the new directive and four EU countries (Denmark, Austria, Slovakia and Slovenia) have even set unlimited deposit insurance coverage (European Commission, 2011).

In the United States, the maximum amount of insurance coverage was raised (temporarily) from USD 100,000 to USD 250,000 in October 2008. In the same period Australia and New Zealand have introduced explicit deposit insurance schemes with unlimited deposit insurance coverage and deposit insurance coverage of NZD 1,000,000 respectively (Schich, 2008).

**Chart 1: Deposit insurance coverage before and after 2008 crisis**

![Chart 1](image)

*Source: Author*

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2. The data on deposit insurance coverage have been collected from the web sites of the national institutions for deposit insurance of the selected countries and the national laws on deposit insurance.
Chart No 1 shows changes in deposit insurance coverage in the countries in the region as a result of the 2008 financial crisis. All the countries presented in the chart (except for Albania and Macedonia) have increased their deposit insurance coverage to a maximum of 50,000 EUR. The increase was made not only for the purpose of restoring public confidence in the banking system, but also for adjusting the national regulations with the EU regulations, since all these countries are aspirants for EU membership.

Deposit insurance coverage in Republic of Macedonia before the increase of December 2010, was EUR 20,000 i.e. it was adjusted to the demands of EU Directive 94/19/EC. The crisis did not directly affect the stability of the Macedonian financial system, no deposit withdrawal was detected, and the deposits of the physical persons even had a permanent growth during the crisis years. But still the deposit insurance coverage was increased to EUR 30,000 and that increase was a step forward to adjusting the Macedonian regulations on deposit insurance with the new EU Directive 2009/14/EC. The changes in the Law on Deposit Insurance Fund with article 22 provide for full compliance with EU Directive 2009/14/EC regarding the insurance coverage from the date of the accession of the Republic of Macedonia to the European Union.

Three basic problems can occur from the increase of deposit insurance coverage:
1) High deposit insurance coverage can initiate moral hazard;
2) Increase of the deposit insurance coverage can increase the premium assessment base;
3) Increase of the deposit insurance coverage can increase the potential financial commitment of the deposit insurance institution.

Moral hazard refers to the fact that if people don’t have to face consequences, they tend to take on more risk than they should (Sit, 2007). Increase of the deposit insurance coverage can give rise to moral hazard both on the part of depositors, who may reduce their monitoring and “policing” efforts, as well as on the part of banks, which may perceive a lessening of the threat of market discipline. Therefore deposit insurance coverage level should be capable of preserving market discipline and minimize the problem of moral hazard.

One of the criteria used for evaluating the level of coverage is the amount of deposits or number of depositors that it covers. In theory, a limit that covers at least 80 percent of depositors and 20 percent of deposits is generally considered adequate. Another criterion is the value of the deposit insurance coverage as a proportion of GDP per capita. IMF suggests that deposit insurance coverage should vary from 1 to 2 GDP per capita (Garcia, 1999).

The ratio of coverage level to per capita GDP among the countries of the world has significantly changed since the 2008 crisis. Before the crisis the average ratio for Europe was 1.4 and since the crisis it has risen to 4.8. In the Asia/Pacific region the
The average ratio before the crisis was 2.2, and since the crisis has risen to 26.8. The ratio of coverage level to per capita GDP in USA has risen as well from 2.1 before the crisis to 5.4 after the crisis (Hoelscher, 2011). The value of this ratio in the Republic of Macedonia is much higher than the European average. In 2009 it was 6.1, and since the increase in 2010 the value of this ratio has risen to 8.7.

Regarding the deposits that it covers, deposit insurance coverage of the Republic of Macedonia, even before the increase of 2010, has covered around 99 percent of the deposits (Gosev, 2008). The increase in EU coverage to EUR 100,000 will effectively cover over 98 percent of all depositors and 60 percent of the value of deposits. Many of the newer EU members with relatively small financial systems will have 100 percent deposit coverage for all depositors. The US made the temporary USD 250,000 limit permanent and will fully cover 99.8 percent of depositors and 78 percent of the value of deposits. These post-crisis levels of protection are significantly higher than the often-cited 80/20 “rule of thumb” used prior to the crisis (Hoelscher, 2011).

The financial crisis has led to a re-evaluation of the methodology for determining appropriate coverage levels. Since the crisis, the role of deposit insurance in promoting financial stability has taken precedence over concerns about contributing to moral hazard. In the midst of a crisis, one should not be overly concerned with moral hazard. Restoring the depositors’ confidence should be the first priority.

Although a high coverage level reduces the incentives for depositors to run, adequate controls are needed to ensure a proper balance between financial stability and market discipline. National authorities that have not done so should consider adopting compensatory measures that are commensurate to the level of coverage in order to mitigate the risk of moral hazard. Such measures could include, for example, more intensive supervision, the introduction of risk-based premiums, the exclusion of certain categories of deposits from coverage (e.g. deposits held by more sophisticated depositors such as financial institutions), and timely intervention and resolution by deposit insurers or other safety net participants. The IADI and other relevant bodies should provide more guidance on the types of instruments and good practices that can help mitigate moral hazard (Financial Stability Board, 2012).

Another consequence of the deposit insurance coverage increase, mentioned above, is an increase in the extent of the premium assessment base. The premium assessment base is the foundation used to determine the contributions made to the deposit insurance fund by member institutions. The most common assessment bases are insured, insurable and total deposits.

Insurable deposits are defined as all deposits in all categories that are insured, including amounts in excess of the limit on insurance claims. For example if the

insured limit for a demand deposit is USD 50,000 a USD 90,000 deposit would be fully counted in insurable deposits, but only USD 50,000 would be included in insured deposits. Insured deposits are the amount of deposits that are protected within the limit of insurance claims. Calculating premiums on the basis of insurable deposits means that premium would be charged on deposits which are not covered. Total deposits would accentuate this issue, since some categories of deposits may not be covered at all (IADI, 2009).

An increase of the deposit insurance coverage limit will have an effect on the premium assessment base only in cases when insured deposits are used as a base for premium calculation. Where deposit insurance premium is calculated on insurable or total deposits, higher deposit insurance coverage will not increase contribution to the deposit insurance fund by member institutions i.e. deposit insurance costs of the financial institutions will stay the same.

The European Commission has estimated the impact on EU banks that the increase in deposit insurance coverage level will have. The estimation scenario results indicate that the average percentage decrease of banks’ operating profits at EU level is 4 percentage points when the level of coverage is set at EUR 100,000 (European Commission, 2011). The deposit insurance system of the Republic of Macedonia uses insurable deposits as a base for premium calculation, so the increase in deposit insurance coverage will have no effect on the banks’ contribution.

Another consequence of the deposit insurance coverage increase, mentioned above, is increase in the potential financial commitment of the deposit insurance institution. The increase in deposit insurance coverage will lead to an increase in the amount of deposits that are covered with insurance. An estimation made by the European Commission about the effects of the increase in deposit insurance coverage in the EU to EUR 100,000 indicates that it increases the amount of covered deposits to 17.5 percent. The average increase for the EU 12 is 48.8 percent, and the average increase for the EU 15 is 17.5 percent (European Commission, 2011).

The potential financial obligation of the deposit insurance institution for depositors’ reimbursement will rise with the increase in the amount of covered deposits. Re-evaluation of the adequacy of the deposit insurance fund will be needed, especially in deposit insurance systems where the increase in the amount of covered deposits is significant. Maybe there will be a need for changes in the funding mechanism, including additional sources of funding etc.

Around 99 percent of the deposits in the Republic of Macedonia were covered by insurance before the increase in the deposit insurance coverage (Gosev, 2008). Changes in the deposit insurance coverage will lead to an insignificant increase in the potential financial obligation of Deposit Insurance Fund Skopje.
Elimination of co-insurance

With the co-insurance arrangements there is full protection of the depositors up to a certain ceiling, beyond which (excessive) deposits are subject to co-insurance, requiring the depositor to bear part of the cost in case of a banking failure (Schich, 2008). While there is no co-insurance in the USA, in the EU, the original Directive 94/19/EC stipulated that the member states may decide that depositors should bear a certain percentage of losses themselves in case of a bank failure. According to its provision, the member states might limit the coverage level to a specified percentage of deposits, which had to be equal to or exceed 90% of aggregate deposits until the amount to be paid under the guarantee reached the minimum coverage limit (i.e. EUR 20,000). In other words, the directive allowed for 10% co-insurance, i.e. the EU member states which had decided to apply 10% co-insurance had to set the minimum coverage limit at EUR 22,222 in order to reach the minimum required level is EUR 20,000.

In practice, prior to the outbreak of financial turmoil in 2008, co-insurance was applied to deposits of individual customers in 12 countries of the EU – mostly in the new member states (Cyprus, Czech Republic, Estonia, Hungary, Lithuania, Malta, Poland, Slovakia), but in a few old ones as well (Germany, Ireland, Netherlands, United Kingdom). There was mostly coinsurance of 10 percent. In some cases, deposits not exceeding the coverage limit were insured at 90 percent, while in other cases – in order to protect small depositors – deposits were insured partly at 100 percent and partly at 90 percent (e.g. in Poland, it was 100 percent for amounts up to EUR 1,000, and 90 percent for amounts between EUR 1,000 and EUR 22,500) (Szelag, 2009).

The deposit insurance system of the Republic of Macedonia has applied coinsurance of 10 percent till 2010. The deposits with amounts up to EUR 10,000 were 100 percent covered by insurance, and deposits with amounts between EUR 10,000 and EUR 20,000 were only 90 percent covered by insurance. With amendment of the Law on the Deposit Insurance Fund of 2010, the coinsurance was excluded.

The EU has excluded the coinsurance arrangement with Directive 2009/14/EC. The coinsurance was excluded in order to strengthen public confidence in the banking system. If people are not convinced that their money deposited in a bank is fully safe, they will be more ready to withdraw this money (to prevent it from being lost) at the first whispers of bank troubles – even if they are not necessarily true (or they are just rumours). And a bank run might involve another bank run, and such a contagion effect could threaten the stability of the entire banking system (Szelag, 2009).

Two basic problems may appear with the elimination of coinsurance:
1) The elimination of co-insurance may increase the moral hazard problem;
2) The elimination of co-insurance will increase the potential financial commitment of the deposit insurance institution.
The method of co-insurance aims to reduce moral hazard risk on the part of depositors and banks. If depositors expected full compensation for losses, then they too would no longer need to consider the risk associated with the particular banks in which they placed their money. This, in turn, would have serious and potentially damaging consequences for the whole banking system as it would favor institutions which, for example, offered unrealistically high rates of interest, at the expense of more prudent ones. And it would encourage managers who wanted to attract deposits to adopt riskier strategies.

Although using co-insurance to encourage consumers to invest their savings in healthy institutions was attractive in theory, its effect in practice was not as expected. On the other side, since the crisis, the role of deposit insurance in promoting financial stability has taken precedence over concerns about contributing to moral hazard. Therefore abandoning co-insurance in order to restore public confidence is considered as necessary and justified.

The elimination of co-insurance will increase the potential financial commitment of the deposit insurance institution for the amount of costs that was previously borne by the depositors in case of a bank failure. Because the co-insurance in the deposit insurance system of the Republic of Macedonia was 10 percent and it was applied only to deposits between EUR 10,000 and EUR 20,000, the potential financial obligation of the deposit insurance institution will be increased less than 10 percent. The average potential financial obligation of deposit insurance funds in the EU will not be significantly increased due to co-insurance elimination, because co-insurance was not applied in each country and it was not higher than 10 percent.

Changes in payout speed

The crisis pointed to the importance of quickly re-assuring depositors about access to their funds. Payout delays, particularly in a crisis, created incentives for preemptive runs by depositors. The slowness of payout is one of the major factors which could contribute to undermining depositors’ confidence. In reviewing design features of deposit insurance systems, many countries have focused on the payout period. It was considered that the previously acceptable payout periods were unlikely to be sufficient.

With regard to the speed of payout, there is a substantial difference between the US and the EU. In the US, the reimbursement is near immediate, i.e. maximum a few days after a bank/thrift failure; usually, most depositors are reimbursed within 1-2 business days after the closure of the failed institution (Szelag, 2009). On the other hand, EU Directive 94/19/EC stipulated that the deposit guarantee schemes in the EU –after making a determination by the competent authorities (within maximum 3 weeks) that a given credit institution had failed to repay deposits which were due and payable– should have been able to pay duly verified claims by depositors
in respect of unavailable deposits within 3 months. In exceptional circumstances, a deposit guarantee scheme might apply for an extension of the above time limit. The competent authorities might allow for no more than two further extensions of 3 months each. That means that maximum payout period allowed by Directive 94/19/EC was 9 or almost 10 months.

With the new Directive 2009/14/EC European Commission has made changes in the payout period and the new payout period was set according to the following rule: 5+20+10 working days, i.e. (Szelag, 2009):
- Competent authorities shall make determination at the latest 5 working days after first becoming satisfied that a credit institution has failed to repay deposits which are due and payable;
- Deposit guarantee schemes shall be in a position to pay duly verified claims by depositors in respect of unavailable deposits within 20 working days of the date above determination;
- In exceptional circumstances, a deposit guarantee scheme may apply to the competent authorities for an extension of the time limit, which may not exceed 10 working days.

The deposit insurance regulation of the Republic of Macedonia, regarding the period for depositors’ reimbursement, fully complied with Directive 94/19/EC, and since 2010 has complied with the new Directive 2009/14/EC. There is only exception for the period required for making determination for the activity of the credit institution by the competent authorities. Shortening the payout period requires additional reforms in deposit insurance systems. Adequate payout arrangements – such as early information access, robust information technology infrastructure, sufficient staff resources or engagement of outside agents – have to be put in place to handle depositors’ reimbursement. Changes are required in the funding mechanism as well. Secondary funding sources can help ensure the deposit insurer meets its funding needs. In contrast, unclear or informal standby arrangements that may require additional approval before draw-down could jeopardize the speed of handling a depositors’ payout or bank resolution and impede the effectiveness of the deposit insurance system in maintaining financial stability.

Changes in the deposit insurance system, that a fast payout requires, entail potential financial costs for banks and consumers. The European Commission has made estimation of those costs, focusing on costs for tagging deposits, data cleansing and the creation of Single Customer View (SCV)\(^4\). The estimation indicates that the costs would decrease banks’ operating profits in the EU by around 1 percent. From the consumers’ point of view, average decrease in the interest rate would be around 0.02 percentage points (European Commission, 2011).

\(^4\) SCV is defined as a single, consistent view of an eligible claimant’s aggregate protected deposits.
Conclusion

The role of deposit insurance and the design features of deposit insurance systems are undergoing important changes in the aftermath of the 2008/9 global crisis. Changes were made in order to restore public confidence in the banking system, stop widespread bank runs during the crisis and increase the stability of the financial system. In addition to fulfilling the purpose they were introduced for, the changes can have other effects as well. This paper endeavors to identify the other potential effects, to analyze them and to give recommendations for the purpose of easier system adjustment and negative effects minimization. For the sake of greater paper articulacy, effects of every particular change have been identified and analyzed in particular previous chapters and this chapter gives a summary of the concluding remarks from the overall analysis.

Increase in deposit insurance coverage can initiate moral hazard, increase the premium assessment base and increase the potential financial commitment of the deposit insurance institution. Elimination of co-insurance can have the same effects as the increasing of deposit insurance coverage apart from the effect on the premium assessment base. Shortening the payout period requires additional reforms in deposit insurance systems which will entail potential financial costs for banks and consumers.

Since the crisis, the role of deposit insurance in promoting financial stability has taken precedence over concerns about contributing to moral hazard. Because the increasing of deposit insurance coverage and elimination of co-insurance play an important role in reducing the depositors’ incentive to run, the moral hazard problem should be mitigated with other compensatory measures, such as more intensive supervision, introduction of risk-based premiums, exclusion of certain categories of deposits from coverage and timely intervention and resolution by deposit insurers and other safety net participants.

The deposit insurance premium assessment base will be increased with the increase of deposit insurance coverage in systems where insured deposits are used as premium calculation base. Where deposit insurance premium is calculated on insurable or total deposits, higher deposit insurance coverage will not increase contribution to the deposit insurance fund by member institutions i.e. deposit insurance costs of the financial institutions will stay the same.

The potential financial commitment of the deposit insurance institution will rise with the increase in the amount of deposits that are covered by insurance and for the amount of costs that was previously borne by the depositors in case of a bank failure. This will require re-evaluation of the adequacy of the deposit insurance fund, especially in deposit insurance systems where the increase in the amount of covered deposits is significant. Maybe there will be a need for changes in the funding mechanism, including additional sources of funding etc.
Reduction of the payout delay will require adequate payout arrangements – such as early information access, robust information technology infrastructure and sufficient staff resources or engagement of outside agents. Changes are required in the funding mechanism as well. Secondary funding sources can help ensure the deposit insurer meets its funding needs.

Increasing of the deposit insurance coverage of the Republic of Macedonia did not increase the premium assessment base because the deposit insurance premium is calculated on the base of insurable deposits. The potential financial commitment of the Deposit Insurance Fund Skopje was insignificantly increased because even before the increasing of the deposit insurance coverage the deposits were around 99 percent covered by insurance. On the other hand, potential financial obligation of the deposit insurance institution due to co-insurance elimination should have been increased less than 10 percent. With regards to the moral hazard problem, the deposit insurance system of the Republic of Macedonia has integrated compensatory elements for moral hazard mitigation. Introduction of risk-based premium should be considered as a step forward in mitigating the moral hazard.

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